

MODELS OF RATIOS APPLIED

Capital Gearing Ratio

It shows the relationship between variable cost bearing capital and fixed cost bearing capital. Fixed cost capital includes preference share capital and long term loans as the interest and dividend are fixed. While variable cost bearing capital consists of the equity share capital, reserves and retained earnings. It is calculated as below.

$$\frac{\text{Equity capital (variable cost bearing capital)}}{\text{Fixed cost bearing capital}}$$

Debt Equity Ratio

It reveals the relationship between external and internal equity and is calculated as under.

$$\frac{\text{External Equities (All Debts)}}{\text{Internal Equities (Equity, preference share capital and reserves)}}$$

The debt equity ratio measures the long - term financial solvency of a business concern. This ratio relates the owners stake in the business vis-a-vis that of outsiders. Alternatively, it reflects the relative claims of creditors and share holders against the assets of the unit. This ratio can also be viewed as

indicating the relative proportion of debt and equity in financing the assets of the business unit. A high ratio shows a large share of financing by the creditors as compared to the share holders and therefore a larger claim against the assets of the unit.

Ratio of Reserve to Equity Capital

It focuses on the development position of an institution. It is calculated as:

$$\frac{\text{Revenue Reserves}}{\text{Equity capital}}$$

This ratio establishes relationship between reserves and equity capital. It is important as much as it reveals the policy pursued with regard to growth shares. If a conservative policy regarding the distribution of dividend is followed, the ratio may be unduely high. It also indicates the extent to which value of equity shares has gone up by the ploughing back of profits and vice-versa if dynamic policy is adopted.

Ratio of Fixed Assets to Long Term Debt

It determines the protection limit of the long term debt and is calculated as follows.

$$\frac{\text{Fixed Assets}}{\text{Long Term Debt}}$$

When the ratio of fixed assets to long term debt is more than 1 it is security to debt holders. If it is less than 1, the debt holders has little security.

Earning Per Share (EPS)

It relates the residual earnings available to the equity share holders with the number of equity shares. It is calculated as below:

$$\frac{\text{Net profit - Dividend Due to Preference Share Holders}}{\text{Number of Equity Shares}}$$

This ratio helps in the assessment of the profitability of a firm from the stand point of equity shareholders. It is a popular ratio, as it measures the profitability of a firm from owners stand point.

Earning Power

The best measure of profitability is enterprise's earning power. It is calculated by dividing earnings before interest and taxes by total assets.

$$\frac{\text{Earning Before Interest and Taxes (EBIT)}}{\text{Total Assets}}$$

Return on Capital Employed

This ratio measures return on the capital employed by a firm. Capital refers to long term funds supplied by the creditors and owners of the firm. The ratio can be computed as

$$\frac{\text{Net Profit After Taxes + Interest}}{\text{Total Capital Employed - Intangible Assets}}$$

The ROCE provides a test of profitability related to the sources of long term funds. A comparison of this ratio with similar firms, with the industry average and over time would provide sufficient insight into how efficiently the long term funds of owners and creditors are being used.

Book Value Per Share

Book value per share means an amount that will be paid to the share holders if the firm is liquidated. It is calculated as

$$\frac{\text{Shareholders Funds}}{\text{Number of Shares}}$$

Price Earning Ratio

This ratio indicates the relationship between the market price of the share and earning per share and is calculated as follows.

$$\frac{\text{Market Price per Share}}{\text{Earning per Share}}$$

The higher the price earnings ratio, the better it is for the equity shareholders. The assessment of performance in accordance with the investors' expectations is effected through this ratio. The price earning ratio helps the investor in deciding whether to buy or not to buy the shares of a company at a particular market price.

Times Interest Eamed Ratio

This ratio is used to test the firms' debt servicing capacity. It is calculated as under.

$$\frac{\text{Net Profit Before Interest and Taxes}}{\text{Interest Charges}}$$

This ratio indicates the extent to which a firm's earnings may be reduced before it could meet interest payments out of current profits. Precisely, it shows how many times interest charges are covered by the EBIT out of which they will be paid. The larger the coverage, the greater the ability of the firm to service long-term debts. But too high a ratio may only indicate the unused capacity of a firm, whilst the low ratio indicates that the firm is using excessive debt.

Dividend Yield Ratio

This ratio reflects the percentage of dividend to be paid to share holders in comparison to the paid up capital and may be calculated as.

$$\frac{\text{Dividend per Share}}{\text{Market Price per Share}} \times 100$$

This ratio helps an intending investor in knowing the effective return he is going to get on the proposed investment. The investor can decide whether he should go in for this investment or not.

Pay Out Ratio

This is a test of managerial ability and reputation. It also expresses the amount of equity dividend as a percentage of earning available for equity shares after meeting all charges. It is calculated as

$$\frac{\text{Dividend per Share}}{\text{Earning per Share}} \times 100$$

This ratio indicates what proportion of earning per share has been used for paying dividend. The lower the pay out ratio, the higher will be the amount of earnings ploughed in the business and vice versa. A lower pay out ratio may mean a stronger financial position of the company.

Cost of capital

Cost of capital is the rate of return the firm requires from an investment in order to increase the value of the firm in the marketplace. The cost of each source of funds is computed as per the following methods.

Cost of Preference Shares Preference shares are the fixed cost bearing securities. The rate of dividend is fixed at the time of their issue. The cost of preference share capital is equal to the ratio of annual dividend income per share to the net proceeds. The cost of preference share (k_p) is D/P , where D refers to the dividend on the preferred stock and p refers to net proceeds per share. Face value of preference shares minus flotation cost gives the net proceeds. But the data on cost of flotation were not available for the sample companies. Hence the face value of issued and subscribed preference shares is taken as the net proceeds for the purpose of this study.

Cost of Debt The cost of debt is the contractual interest rate adjusted further for the tax liability of the company. The cost of debt (k_d) is $r(1-t)$. Where r refers to contractual rate of interest and t refers to marginal tax rate applicable to the company. The debt includes debentures, loans and advances from financial institution, and public deposits.

Cost of Equity The cost of equity (k_e) is the discount rate, which equates the market value of equity with the present value of expected benefits. The expected future benefits can be expressed in terms of dividend or earnings. Accordingly, there are two models that may be employed to calculate the cost of equity. They are dividend model and earnings model.

As per the dividend model, the cost of equity is equal to the expected dividend price ratio and is calculated by dividing expected dividend per share by the market price per share.

The dividend model is not used in this study, since there can be no dividend, when profits have been fully ploughed back. Also when losses are incurred the question of dividend does not arise.

Under the earnings model, the cost of equity is measured as a ratio of expected earnings to price and is calculated by dividing earnings per share by market price per share.

This model is based on the assumption that the future earnings will grow at a constant rate and can be expressed as an average and that the market price of shares is determined by the expected earning stream.

Although the dividend model is more logical yet it is the earnings model which is widely used in practice. It is preferred over the dividend model, because the cost of capital is used primarily as an investment criterion and since earning is the goal, the problem should be approached directly by using the earnings model. Hence the earnings model is applied in this study for calculations K_e .

Cost of Retained Earnings The opportunity cost of retained earnings is deemed equal to the rate of return that can be earned on such investment. Since that the rate of return is equal to K_e , the cost of retained earnings is also equal to K_e .

Overall Cost of Capital The composite or overall cost of capital k_o is the weighted average of the costs of various sources of funds, weights being the proportion of each source of funds in the capital structure.

Value of Firm

The total value of the firm (v) is calculated by using the formula, NOI/K_o , where NOI refers to Earning before interest and taxes, and K_o refers to Overall cost of capital.

LIST OF SAMPLE COMPANIES

South Indian Enterprises

Automobile Industry

1. Mopeds India Ltd.
2. Enfield Motors Ltd.
3. Standard Motors Ltd.
4. TVS Suzuki Ltd.

Cement Industry

1. Chettinad Cement Corporation Ltd.
2. Dalmia Cement (Bharat) Ltd.
3. India Cements Ltd.
4. Madras Cements Ltd.
5. MIC Cements Ltd.
6. Travancore Cements Ltd.

Chemical Industry

1. Amaravati Chemicals Ltd.
2. Chemflab Alkallies Ltd.
3. Chemical and Plastics India Ltd.
4. IDL Chemicals Ltd.
5. Ind Dag Products Ltd.

6. Kamar Chemicals and Industries Ltd.
7. King Chemicals Ltd.
8. Madras Aluminium Company Ltd.
9. Manali Petrochemicals Ltd.
10. MICO Farm Chemicals Ltd.
11. Pentasia Chemicals Ltd.
12. Shri Ambuja Petrochemicals Ltd.
13. Sip Resigns Ltd.
14. Sri Ramakrishna Oxygen Ltd.
15. Spic Fine Chemicals Ltd.
16. Standard Organics Ltd.
17. Southern Petro Chemical Industries Corporation Ltd.
18. Tamil Nadu Chemical Products Ltd.
19. Tamil Nadu Chromates and Chemicals Ltd.
20. Travancore Electrochemical Industries Ltd.
21. Trichy Distilleries and Chemicals Ltd.
22. The Andhra Petro Chemicals Ltd.
23. Tuticorin Alkali Chemicals Ltd.
24. Vanavil Dyes and Chemicals Ltd.

Engineering Industry

1. Asian Bearings Ltd.
2. Best and Crompton Engineering Ltd.
3. Bimetal Bearings Ltd.
4. EL Forge Ltd.
5. EL Tex Super Castings Ltd.
6. Engine Valves Ltd.
7. India Precision Bearings Ltd.
8. India Radiators Ltd.
9. Kaveri Engineering Industries Ltd.
10. Kunal Engineering Industries Ltd.
11. Lakshmi Auto Loom Works Ltd.
12. Lakshmi Machine Works Ltd.
13. Lakshmi Electrical and Control System Ltd.
14. L.G. Balakrishna Bros Ltd.
15. Rane Brake Linings Ltd.
16. Revathi - CP Equipment Ltd.
17. Shanthi Gears Ltd.
18. Sivanandha Steels Ltd.
19. Sri Ramakrishna Steel Industries Ltd.
20. Sundram Fasteners Ltd.
21. Sundram Clayton Ltd.

22. Textool Company Ltd.
23. Trichy Steel Rolling Mills Ltd.
24. The Indian Steel Rolling Mill Ltd.

Paper Industry

1. Andrapradesh Paper Mill Ltd.
2. Seshasayee Paper and Board Ltd.
3. Sun Paper Mill Ltd.
4. West Coast Paper Mill Ltd.

Sugar Industry

1. Andhra Sugars Ltd.
2. Bannariamman Sugars Ltd.
3. India Sugars and Refineries Ltd.
4. Jaypore Sugar Company Ltd.
5. Sakthi Sugars Ltd.
6. South India Sugars Ltd.
7. Sri Chamundeswari Sugars Ltd.
8. Sri Sarvaraja Sugars Ltd.
9. Thiru Arooran Sugars Ltd.

Textile Industry

1. Binny Ltd.
2. Coimbatore Pioneer Mills Ltd.
3. Dhanalakshmi Mills Ltd.
4. Gnanambika Mills Ltd.
5. Jawahar Mills Ltd.
6. The Kadri Mills (CBE) Ltd.
7. Kongarar Textiles Ltd.
8. Lakshmi Mills Ltd.
9. Loyal Textiles Ltd.
10. Madras Spinners Ltd.
11. Palani Andavar Cotton and Synthetic Spinners Ltd.
12. The Palani Andavar Mills Ltd.
13. Premier Mills Ltd.
14. Precot Mills Ltd.
15. Rajapalayam Mills Ltd.
16. Rajalakshmi Mills Ltd.
17. Rayalaseema Mills Ltd.
18. Sarvaraya Textiles Ltd.
19. Sree Akkamba Textiles Ltd.
20. Sri Bhagavathi Textiles Ltd.
21. Sri Ramakrishna Mills (CBE) Ltd.

22. Sri Ramanarayan Mills Ltd.
23. Sree Karpagambal Mills Ltd.
24. South India Viscose Ltd.
25. Super Spinning Mills Ltd.
26. Thanjavur Textiles Ltd.
27. Tuticorin Spinning Mills Ltd.
28. Uma Maheswari Mills Ltd.
29. Vijayalakshmi Mills Ltd.

North Indian Enterprises

Automobile Industry

1. Bajaj Tempo Ltd.
2. Maharashtra Scotters Ltd.
3. Premier Automobiles Ltd.

Cement Industry

1. Associated Cement Corporation Ltd.
2. Gujarat Ambuja Cements Ltd.
3. Gujarat Sidhee Cements Ltd.
4. Kanoria Industries Ltd.

5. Narmada Cement Company Ltd.
6. Saurashtra Cement Ltd.

Chemical Industry

1. Alembic Chemical Works Co.Ltd.
2. AIIIC Industries Ltd.
3. Amar Dye-Chemical Ltd.
4. Atul Products Ltd.
5. Bayer India Ltd.
6. Cipla Ltd.
7. Colour Chemical Ltd.
8. Citurgia Bio Chemicals Ltd.
9. DCW Ltd.
10. Dharamsi Morarji Chemicals Company Ltd.
11. Excel Industries Ltd.
12. Gujarat Alkalies and Chemicals Ltd.
13. Gujarat Heavy Chemicals Ltd.
14. Herdillia Chemicals Ltd.
15. ICI India Ltd.
16. Indian Dyestuff Industries Ltd.
17. Indian Organic Chemicals Ltd.
18. Mardia Chemicals Ltd.

19. Maharashtra Distilleries Ltd.
20. Mafatlal Dyes and Chemicals Ltd.
21. Monsanto Chemicals of India Ltd.
22. National Organic Chemical Industries Ltd.
23. Polyolefins Industries Ltd.
24. Poly Chemicals Ltd.
25. Rama Petrochemicals Ltd.
26. Rhone Poulenc (India) Ltd.
27. Sadhana Nitro Chemical Ltd.
28. S.M.Dye Chemicals Ltd.
29. S.M. Zschimmer and Schwarz Chemicals Ltd.
30. Synthetics and Chemicals Ltd.
31. Sudarshan Chemical Industries Ltd.
32. TATA Chemicals Ltd.
33. Transpek Industries Ltd.

Engineering Industry

1. Advani Oerlikon Ltd.
2. Asea Brown Boveri Ltd.
3. Alfa Laval (India) Ltd.
4. Batliboi and Company Ltd.
5. Bharat Bijlee Ltd.

6. Bharat Forge Ltd.
7. Crompton Greaves Ltd.
8. Fag precision Bearings Ltd.
9. Gabriel India Ltd.
10. Greaves Ltd.
11. Greaves Cotton Company Ltd.
12. Ingersoll Rand (India) Ltd.
13. Kalyani Steels Ltd.
14. KEC International Ltd.
15. Kirloskar Cummins Ltd.
16. Kirloskar Brothers Ltd.
17. Kinetic Engineering Company Ltd.
18. K.S.B. Pumps Ltd.
19. Larsen and Tourbro Ltd.
20. Mukand Company Ltd.
21. Simens Company Ltd
22. SKF Bearings Ltd.
23. Tata Iron and Steel Company Ltd.

Paper Industry

1. Aurangabad Paper Mill Ltd.
2. Ballarpur Industries Ltd.
3. Balakrishna Industries Ltd.
4. Jayant Paper Mills Ltd.
5. Pudumjee Pulp and Paper Mill Ltd.
6. Nath Pulp and Paper Mills Ltd.
7. Rohit Pulp and Paper Mills Ltd.
8. Sree Vindhya Paper Mills Ltd.

Sugar Industry

1. Bellapur Sugar Industries Ltd.
2. Oudh Sugar Mills Ltd.
3. The Ugar Sugar Works Ltd.

Textile Industry

1. Arvind Mills Ltd.
2. Arvind Poly Cot Ltd
3. Ashoka Mills Ltd.
4. Bharat Vijay Mills Ltd.
5. Blue Blends Ltd.

6. Bombay Deying and Manufacturing Company Ltd.
7. Century Textiles and Industries Ltd.
8. Forbes Gokak Ltd.
9. Garden Silk Mills Ltd.
10. Hindustan Spinning and Weaving Mills Ltd.
11. Indian Rayon and Industries Ltd.
12. JBF Industries Ltd.
13. Khataumakanji Spinning and Weaving Company Ltd.
14. Mafatlal Industries Ltd.
15. Mafatlal Spinning and Weaving Company Ltd.
16. Maheswari Mills Ltd.
17. Morarjee Goculdas Spinning and Weaving Company Ltd.
18. Niwas Spinning and Weaving Company Ltd.
19. ORkay Industries Ltd.
20. Relience Industries Ltd.
21. Standard Industries Ltd.
22. Simples Mills Ltd.
23. Siyaram Silk Mills Ltd.
24. Sivadeshi Mills Company Ltd.